

ATTACHMENT 1

**ENGINEERING SERVICES
FOR THE
LOUDOUN COUNTY STORMWATER MANAGEMENT PROGRAM**

DETAILED SCOPE OF SERVICES

1.0 GENERAL PROVISIONS

Provide professional engineering services to support the planning, development, and execution of the Loudoun County stormwater management program.

1.1 Criteria

Develop all studies, investigations, analyses, inspection reports, program development, and recommendations for best management practices (BMPs) to meet all applicable National Pollution Discharge Elimination System (NPDES) and Virginia Pollutant Discharge Elimination System (VPDES) Phase II regulations and requirements.

1.2 County Furnished Data

The County will assist the Consultants in obtaining ordinances, maps, regulations etc. as required to complete each task.

1.3 Correspondence

Address all correspondence to:

County of Loudoun, Virginia
Department of General Services
Chief, Stormwater Management
801 Sycolin Road SE, PO Box 7100
Leesburg, Virginia, 20177

1.4 Documentation

Document all meetings, conferences, and information obtained by telephone and personal visits. Accurate notes and minutes shall be typed, reproduced, and mailed to the Project Manager within five (5) working days.

1.5 Submittal Requirements

All project correspondence, design/review documents, reports, etc. prepared by the Consultant shall be distributed to the County's Project Manager for each task in the format and number of copies as directed by the task statement of work.

If requested, within thirty (30) days of project completion, the Consultant shall prepare and submit a Project Completion Report with project closeout documents and submit to the County's Project Manager.

Project documents shall be developed as follows:

- 1.5.1 Written Documents:** including reports, cost estimates, specifications, and design calculations shall be bound. The task title, project name, contract number, and date shall appear on or be visible through the cover. Divide each volume into logical sections: include an opening summary or overview.
- 1.5.2 Quantity:** Submit six (6) sets of drawings, reports, and specifications for each task, unless otherwise directed. Deliver submittals by overnight mail or in person.
- 1.5.3 Rejection:** If a task submittal fails to meet the requirements specified, it will be rejected by the Project Manager and the reasons therefore explained. The Engineer shall revise and resubmit rejected submittals at no additional cost to the County.
- 1.5.4 Drawings:** Provide drawings, if required, on 24x36 inch drawing sheets done in black ink. Include a cover sheet. Prepare the drawings so they are legible and clear when reduced to half size, with lettering on the originals no smaller than 1/8 inch high. Provide drawings on current version of AutoCAD using CD or DVD. Provide a table of contents for each disk and use layering systems suggested by the Engineer and Surveyors Institute dated June 29, 1992 which follow the American Institute of Architects "Cad Layering Guidelines".
- 1.5.5 Reports and Specifications:** Type reports and specifications on 8½x11 inch paper with 1 inch side margins and ½ inch top and bottom margins. On each page type the name of the project and the task to which the documents apply.
- 1.5.6 Design Calculations:** Prepare on 8½x11-inch paper. Calculations, if required, shall be detailed and broken down into all major design components. Reference the various sections of codes and standards used where applicable throughout the calculations. Identify design criteria and equipment performance parameters in the calculations.

2.0 PROFESSIONAL SERVICES

The work consists of multiple tasks to assist the County in continuing development and execution of its stormwater management program that meets the requirements and intent of the NPDES and VPDES Phase II permitting process and supports a viable stormwater management program that minimizes localized flooding and reduces the discharge of pollutants into receiving waterways to the maximum practicable extent. These tasks include but are not limited to BMP inspection, stormwater conveyance structure inspection, illicit discharge inspection, investigations, studies, analyses, engineering design, geotechnical analysis, infrastructure location and mapping, preparation of reports,

preparation of drawings and specifications, construction support, developing cost estimates, developing plans and programs for public education and outreach, stormwater training, researching stormwater issues, designing BMP retrofits, designing stream restoration projects, assistance in applying for stormwater related grants and other work as necessary for Loudoun County to develop and execute BMPs in the following areas:

- I. Public Education and Outreach
- II. Public Involvement and Participation
- III. Illicit Discharge Detection and Elimination
- IV. Construction Site Runoff Control
- V. Post Construction Runoff Control
- VI. Pollution Prevention/Good Housekeeping

2.1 Potential Tasks

The potential tasks identified herein are for information to the offeror and for proposal evaluation purposes only. They may not indicate the actual tasks that will be ordered since such tasks will depend upon requirements that develop during the contract period.

2.1.1 "Certificate of Registration": Assist the County in developing and executing required programs identified in the County's VPDES Phase II, Stormwater Permit, "Certificate of Registration". Suggested sub-tasks include but are not limited to:

- a. Interview County agencies to determine degree of compliance with respect to the BMPs identified in the County's Stormwater Management Plan in support of the six minimum standards set forth in the VPDES Phase II regulation.
 - I. Public Education and Outreach
 - II. Public Involvement and Participation
 - III. Illicit Discharge Detection and Elimination
 - IV. Construction Site Runoff Control
 - V. Post Construction Runoff Control
 - VI. Pollution Prevention/Good Housekeeping
- b. Review existing County ordinances relating to stormwater management and make recommendations for modification to meet permit requirements.
- c. Identify existing areas/functions that do not meet standards and criteria set forth by EPA/VDEQ and make recommendations for correction/improvement.
- d. Suggest programs and initiatives to achieve public education and outreach.
- e. Assist the County in determining an appropriate level of public involvement in permit compliance. Suggest programs and initiatives to achieve this involvement.

- f. Monitor the County's progress in achieving its objectives detailed in the Stormwater Management Plan.
- g. Assist the County in implementing and/or adjusting its roadmap for permit compliance to include measurable goals and implementation time-line.
- h. Using information developed above, and considering information developed for similar jurisdictions, review and adjust budget estimates for executing the Loudoun County Stormwater Management Plan.
- i. Prepare reports required by VDEQ that set forth the County's accomplishments in executing the BMPs detailed in the approved Stormwater Management Program. Submit drafts for review at times specified in individual task orders. Incorporate County review comments and submit a final report within 15 days of receipt.
- j. Develop Total Maximum Daily Load (TMDL) Action Plans.

Based on previous experience, identify any additional sub-tasks that may enhance the County's Stormwater Management Plan but are not delineated herein.

- 2.1.2 Public Education and Outreach:** Assist the County in implementing a public education and outreach program to inform the County's citizens about the adverse impacts that polluted runoff can have on local bodies of water. Also, inform the citizens of the hazards associated with illegal discharges and the improper disposal of waste. Further, the program should provide information on the steps that citizens can take to reduce stormwater pollution. Target audiences might include, for example, homeowners' associations (HOAs) and specific groups such as commercial, industrial, and institutional entities that are likely to have significant impacts on the quality of stormwater runoff.
- 2.1.3 Public Involvement and Participation:** Assist the County in developing and executing a plan for public involvement/participation focused on providing interested citizens with an opportunity to actively participate in development and implementation of the Stormwater Management Program. Identify all applicable State and local public notice requirements. Suggest volunteer activities focused on stormwater management that will enhance public participation.
- 2.1.4 Illicit Discharge Detection and Elimination:** Assist the County in developing and maintaining an illicit discharge detection and elimination program to detect and address discharges, including illegal dumping, into the County's waterways. Include procedures to locate and identify illicit discharge problems; trace sources of illicit discharges; remove/correct illicit discharge problems; and document actions taken under the program.
- 2.1.5 Construction Site Runoff Control:** Periodically review the County's existing ordinances, provisions, and policies for construction site erosion and sediment control as well as sanctions to ensure compliance. Review requirements for construction site operators to control building and sanitary

waste at the construction site. Suggest changes, if necessary, to meet VPDES permitting requirements.

- 2.1.6 Post Construction Runoff Control:** Assist in developing a program to address stormwater runoff from new development and redevelopment projects. Suggest controls that will prevent or minimize water quality impacts. Develop strategies for structural and non-structural BMPs that are appropriate for use in the County. Suggest policies to ensure adequate long-term operation and maintenance by the owner of BMPs. Assist in development of maintenance and repair plans and programs. Design/redesign stormwater infrastructure and BMPs as directed to meet specific project requirements.
- 2.1.7 Inspection of Stormwater Facilities:** Inspect various stormwater facilities for maintenance and rehabilitation needs. Possible sub-tasks include;
- Field-inspect wet and dry ponds, underground BMP facilities, and stormwater conveyance structures to determine maintenance needs.
 - Provide illicit discharge inspection services.
 - Provide CATV-inspection of stormwater pipes ranging in size from 12-inch to 54-inch in diameter for identification of repair and replacement needs.
 - Review CATV-inspection video files to provide repair recommendations and cost estimates.
- 2.1.8 Pollution Prevention/Good Housekeeping:** Assist in developing an operations and maintenance program and appropriate training programs to prevent or reduce runoff from County operations activities. Assist in developing a long-term program for maintenance and upgrade of stormwater facilities that the County owns or is responsible for.
- 2.1.9 Long-Term Funding Sources:** Investigate and identify potential long-term funding mechanisms for County consideration in funding the County's Stormwater Management Program. Review funding programs for jurisdictions of similar size and analyze their advantages and disadvantages. Assist in the development of a mechanism for Loudoun County that meets fiscal and political objectives of County leadership.
- 2.1.10 Program Status and Effectiveness:** Assess the status and effectiveness of the County's Stormwater Management Program in achieving its long-term measurable goals. Evaluate the appropriateness and effectiveness of the several BMPs.

2.2 Presentation Meetings

Develop presentations when directed and assist staff in briefing reports, suggested programs, etc. to the County Administration and the Board of Supervisors as appropriate for each individual task. Record proceedings and comments and revise reports, programs, etc. to incorporate approved comments. Include cost for this service as part of each individual task as appropriate.

2.3 Public Hearings and Meetings

Develop presentations when directed and assist staff in preparation for public hearings and meetings. Participate in the hearings and meetings and be prepared to answer technical questions if required. Record proceedings and comments and revise reports, programs, etc. to incorporate approved comments. Include cost for this service as part of each individual task as appropriate.

2.4 Additional Engineering Services

Provide ancillary engineering services in support of the County's stormwater management efforts as directed. Such services may include but are not limited to BMP study and analysis, location and mapping of stormwater infrastructure, bathymetric studies, infrastructure evaluation, design of stormwater facilities, and other stormwater related engineering activities. When required by the County, provide these additional engineering services for a negotiated fee based on the hourly rates included in the contract. Where the extent of service cannot be readily determined in advance, services may be acquired on a time and materials basis in accordance with approved hourly rates.